

What is claimed is:

1. A method for manufacturing a spark plug which has a center electrode and a ground electrode to cause a spark discharge and has an electric resistor interposed between the center electrode and a stem equipped with a terminal,  
5 said manufacturing method comprising the steps of:

stuffing an electric resistive powder material in an inner hollow space of each insulator into which said center electrode and said stem are installed;

heating a plurality of insulators in a furnace;

10 uniformly cooling said plurality of insulators when said plurality of insulators are conveyed out of said furnace; and

inserting said stem in said inner hollow space of each insulator.

2. A method for manufacturing a spark plug which has a center electrode and a ground electrode to cause a spark discharge and has an electric resistor interposed between the center electrode and a stem equipped with a terminal,  
15 said manufacturing method comprising the steps of:

stuffing an electric resistive powder material in an inner hollow space of each insulator into which said center electrode and said stem are installed;

20 mounting a plurality of insulators each accommodating said electric resistive powder material on a tray;

conveying said tray carrying said plurality of insulators into a furnace via an entrance of said furnace;

25 heating all of said plurality of insulators mounted on said tray in said furnace;

conveying said tray mounting said plurality of insulators thereon out of said furnace; and

inserting said stem in said inner hollow space of each insulator,

30 wherein said tray has a windbreak positioned close to said entrance of said furnace when placed in said furnace for shielding the flow of air entering via said entrance.

3. The method for manufacturing a spark plug in accordance with claim 2, wherein said windbreak prevents a portion corresponding to said electric resistor from being directly cooled by the air.

5           4. A method for manufacturing a spark plug which has a center electrode and a ground electrode to cause a spark discharge and has an electric resistor interposed between the center electrode and a stem equipped with a terminal, said manufacturing method comprising the steps of:

10           stuffing an electric resistive powder material in an inner hollow space of each insulator into which said center electrode and said stem are installed;

          placing a plurality of insulators each accommodating said electric resistive powder material in receiving holes of a tray;

          conveying said tray carrying said plurality of insulators into a furnace;

          heating all of said plurality of insulators mounted on said tray in said furnace;

          conveying said tray mounting said plurality of insulators thereon out of said furnace; and

          inserting said stem in said inner hollow space of each insulator,

20           wherein each receiving hole of said tray is so deep that the portion corresponding to said electric resistor can be positioned or concealed in the receiving hole.

25           5. A method for manufacturing a spark plug which has a center electrode and a ground electrode to cause a spark discharge and has an electric resistor interposed between the center electrode and a stem equipped with a terminal, said manufacturing method comprising the steps of:

          stuffing an electric resistive powder material in an inner hollow space of each insulator into which said center electrode and said stem are installed;

30           mounting a plurality of insulators each accommodating said electric resistive powder material on a tray;

          conveying said tray carrying said plurality of insulators into a furnace via

an entrance of said furnace;

heating all of said plurality of insulators mounted on said tray in said furnace;

conveying said tray mounting said plurality of insulators thereon out of said furnace; and

inserting said stem in said inner hollow space of each insulator,

wherein said tray has a configuration for enlarging a cooling rate of an insulator located far from said entrance of said furnace compared with a cooling rate of an insulator located close to said entrance of said furnace.

6. The method for manufacturing a spark plug in accordance with claim 5, wherein said tray has receiving holes for receiving said insulators, and

a depth of a receiving hole provided close to said entrance of said furnace is deeper than a depth of a receiving hole provided far from said entrance of said furnace.

7. The method for manufacturing a spark plug in accordance with any one of claims 1 to 6, wherein said electric resistor is equal to or larger than 3 k $\Omega$ .